CLAIMS

1. A method for positioning a patient for receiving radiotherapy treatment, the method comprising:

performing a computed tomography scan of the patient in a first position to acquire CT data;

using the CT data to create one or more images of the patient in the first position;

preparing the patient to receive treatment delivery in a second position;

acquiring one or more images of the patient in the second position;

comparing the one or more images of the patient in the first position to the one or more images of the patient in the second position;

repositioning the patient until the patient is in substantially the same position as shown in the one or more images of the patient in the first position.

2. The method of claim 1 wherein the patient is repositioned to be within 1 mm of the one or more images of the patient in the first position.

3. The method of claim 1 wherein the patient is repositioned to be within 1 degree of the one or more images of the patient in the first position.

4. The method of claim 1 wherein the one or more images of the patient in a second position are real-time video images.

5. The method of claim 1 wherein a gated acquisition device is used such that the image of the patient in the second position is acquired at the same point of a cycle as the image of the patient in the first position.

6. The method of claim 1 wherein the comparing of the image of the patient in the first position to the image of the patient in the second position is performed by blending the video image of the patient in the first position with the corresponding image of the patient in the second position.

7. The method of claim 1 wherein the comparing of the image of the patient in the first position to the image of the patient in the second position is performed by blinking a display screen and alternating the image of the patient in the first position to the image of the patient in the second position.

8. The method of claim 1 wherein one or more visible markers are added to a surface of the patient to provide landmarks in the image of the patient in the first position to be matched to images of the patient in the second position.

9. A system for positioning a patient to receive radiotherapy treatment, the system comprising:

a computer tomography machine that generates CT data of the patient in a first position;

a processor capable of generating one or more images of a patient in a first position from the CT data;

a memory configured to at least temporarily store the one or more images of a patient in a first position from the CT data;

one or more video cameras located in the area where the patient is to receive radiotherapy treatment, said one or more video cameras acquiring one or more images of the patient in a second position;

a means for comparing the one or more images of the patient in the first position to the one or more images of the patient in the second position; and

a means for repositioning the patient until the patient is in substantially the same position as illustrated in the one or more images of the patient in the first position.

10. The system of claim 9, wherein two video cameras are placed to create a set of stereo video images of the patient in the second position, and a set of stereo goggles are used which are synchronized with the stereo video images of the patient in the second position which gives three-dimensional stereo perception.

11. A system for positioning a patient to receive radiotherapy treatment, the system comprising:

a computer tomography machine that generates CT data of the patient in a first position;

a processor capable of generating one or more images of a patient in a first position from the CT data;

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a memory configured to at least temporarily store the one or more images of a patient in a first position from the CT data.

12. The system of claim 11 further comprising one or more video cameras located in the area where the patient is to receive radiotherapy treatment, said video camera acquiring one or more images of the patient in a second position; a means for comparing the one or more images of the patient in the first position to the one or more images of the patient in the second position; and a means for repositioning the patient until the patient is in substantially the same position as illustrated in the one or more images of the patient in the first position.

13. The system of claim 11 wherein two video cameras are placed to create a set of stereo video images of the patient in the second position, and a set of stereo goggles are used which are synchronized with the stereo video images of the patient in the second position which gives three-dimensional stereo perception.

14. A system for positioning a patient to receive radiotherapy treatment, the system comprising:

one or more video cameras located in the area where the patient is to receive radiotherapy treatment, said one or more video cameras acquiring one or more images of the patient in a position to receive radiotherapy treatment;

a means for receiving one or images of the patient in a scanning position;

a means for comparing the one or more images of the patient in the scanning position to the one or more images of the patient in the position to receive radiotherapy treatment; and

a means for repositioning the patient until the patient is in substantially the same position as illustrated in the one or more images of the patient in the scanning position.

15. The sytem of claim 14 further comprising a computer tomography machine that generates CT data of the patient in the scanning position; a processor capable of generating one or more images of a patient in a scanning position from the CT data; and a memory configured to at least temporarily store the one or more images of a patient in a scanning position from the CT data.

16. The system of claim 14, wherein two video cameras are placed to create a set of stereo video images of the patient in the position to receive radiotherapy treatment, and a set of stereo goggles are used which are synchronized with the stereo video images of the patient in the position to receive radiotherapy treatment which gives three-dimensional stereo perception.